On XX.XX.XXXX via email to:

[title, name]
[department]
[university]

Research proposal: Do stuttering patients speak fluently when using an electronic voice prosthesis?

Dear [title, name],

The aim of this letter is to get you involved in a research project on the cause of stuttering.

A few years ago, with my brother as co-author, I published the hypothesis that a characteristic falsification of laryngeal proprioception would suffice to cause stuttering (Schuster and Schuster, 2012). Our hypothesis implies a causal relationship of stuttering with forms of dystonia in which distortions of proprioception have already been suspected. We stutter ourselves.

Immediately after publishing our theory, Roger J. Ingham (University of Southern California) pointed out stuttering after larynectomy: "*I enjoyed your revival of the idea that stuttering might be a consequence of a problem located within the larynx. That idea was explored in a number of studies during the 1970s. However, it essentially came to an end with the discovery of alaryngeal stutterers - persons who stutter who then have a laryngectomy but their stuttering persists. The first documented case was reported by Tuck in 1979 (Tuck, A.E. (1979). An alaryngeal stutterer: A case history. Journal of Fluency Disorders, 4, 239-243.). Other reports followed. I'm not sure, therefore, how your theory would accommodate such findings.*"

We replied to Roger Ingham that stuttering can hypothetically be reduced to a problem of laryngeal control because stutterers articulate fluently without a voice. The patient of Tuck (1979) does not stutter voicelessly after laryngectomy, but when using the esophageal voice. The subsequent study by Wingate (1981) also seems to refer only to the use of the esophageal voice. This substitute voice is produced by the cricopharyngeal muscle, which - like the inner laryngeal muscles - is also controlled by the recurrent laryngeal nerve. Here, similar control problems as with the "real" laryngeal voice could exist, so that stuttering after laryngectomy is no argument against our research project.

A real argument against the attempt to reduce stuttering causally to a problem of laryngeal control would, however, be stuttering when using an electronic voice prosthesis (electrolarynx) instead of one's own laryngeal voice. Strangely enough, there is no publication on this subject yet.

Would you be prepared to carry out a study on this? Perhaps you will already check during the examination of your patients in [city] whether the stuttering-typical fluent articulation is present when the voice is not used. The application of an electrolarynx would then be an uncomplicated extension.

With the hypothetical reduction of stuttering to a laryngeal sensory problem, a peripheral nervous defect would be sufficient to cause the problem. Therefore, in parallel to this research proposal, we are trying to initiate a combined project for stuttering and laryngeal dystonia to search for neurovascular conflicts (abnormal contacts between blood vessels and nerves) that have already been diagnosed and treated in patients with cervical dystonia.

We would be very pleased if you were interested in this topic and look forward to hearing from you.

Yours sincerely,

Steffen Schuster

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